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XXXV. FURTHER TESTS OF THE VERBAL ABILITY OF POOR SPELLERS

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In a study ("Accuracy of Visual Memory and Speed of Verbal Perception in Poor Spellers," this JOURNAL, vol. 28, page 157), published in 1917, it was shown that a group of 'constitutionally' poor spellers were inferior to an equal group of good spellers (1) in the accuracy of immediate recall of visual non-verbal material, and (2) in the speed with which words were recognized, as measured by performance in the Reading Backwards Test. The two groups were about equal in their performance of a test of visual-verbal memory, where the material, of course, could readily be translated into auditory terms. Hence the existence of slight defects (1) in pure visual immediate memory and (2) in the ability to recognize words was suggested. The present study aimed to investigate further the possible existence of a defect in dealing with verbal material: an inability to perceive words readily and accurately.

Each member of a group of fifty-eight bad spellers, reported by the English Department, and each member of a group of sixty good spellers, was given two tests. The first was the familiar word-building test, where the observer is asked to form as many words as possible out of the letters a, e, o, b, m, t.

For the second test, a passage of one hundred words of prose was selected. The observers were asked to copy the passage as rapidly and accurately as possible. The time required was taken with a stop-watch. They were then asked to make with pen or pencil 100 loops half an inch high, as rapidly as possible, and the time required for this was measured in the same way. In the case of each individual, the time for copying the passage was divided by the time required to make the loops, and the quotient was regarded as measuring indirectly the time required by that individual to perceive and react with appropriate writing movements to the words of the passage. That is, it was argued that the purely mechanical execution of writing movements was represented by the loop making; that writing words would require a certain average multiple of the loop-making time, and that quotients of loop-making time into copying time below or above this average would point to variations in the processes peculiar to the copying of words rather than the making of loops.

The results of test (1) were as follows. The good spellers made on the average 22.9 words from the letters, with a mean variation of 3.6 words. The bad spellers made an average of 19 words, with a mean variation of 3.4 words. The distribution of the scores showed a real superiority in word-building on the part of the good spellers. Scores between 10 and 15 words were made by 9 bad spellers and 1 good speller. Scores between 15 and 20 were made by 23 bad spellers and 16 good spellers. Scores between 20 and 25 were made by 19 bad spellers and 28 good spellers. Scores between 25 and 30 were made by 8 bad spellers and by 10 good spellers. Scores between 30 and 35 were made by no bad spellers, and by 4 good spellers. These figures indicate also that very poor performance in word-building is more

nearly peculiar to bad spellers than very good performance is of good spellers.

The results of test (2) showed an average quotient of copying time divided by loop time of 5.4 seconds, m.v. 1.2, for the good spellers, and 5.99 seconds, m.v. 1.2, for the poor spellers. The individual results, however, are distributed in a way which shows no real superiority for the good spellers. This distribution was as follows. Quotients 2.25 to 2.5, one good, one bad speller. Q. 2.75 to 3, one bad speller. Q. 3-3.25, four good spellers. Q. 3.25-3.5, one bad speller, four good spellers. Q. 3.5-3.75, one bad speller. Q. 3.75-4 one bad speller, six good spellers. Q. 4-4.25, one bad speller, two good spellers. Q. 4.25-4.5, one bad speller, two good spellers. Q. 4.5-4.75, three bad spellers, one good speller. Q. 4.75-5, four bad spellers, one good speller. Q. 5-5.25, five bad spellers, four good spellers. Q. 5.25-5.5, three bad spellers, seven good spellers. Q. 5.5-5.75, five bad spellers, two good spellers. Q. 5.75-6, two bad spellers, six good spellers. Q. 6-6.25, five bad spellers, one good speller. Q. 6.25-6.5, seven bad spellers, four good spellers. Q. 6.5-6.75, four bad spellers, three good spellers. Q. 6.75-7, two bad spellers, six good spellers. Q. 7-7.25, two bad spellers, no good spellers. Q. 7.25-7.5, three bad spellers, three good spellers. Q. 7.5-7.75, one bad speller, no good spellers. Q. 7.75-8, no bad spellers, one good speller. Q. 8-8.25, three bad spellers, one good speller. Q. 9-9.25, no bad spellers, one good speller. Q. 9.75-10, one bad speller, no good spellers. Q. 16.8, one bad speller.

The larger the quotient, the poorer, according to our argument, the verbal perception. The scattering of these results, however, shows that the test failed to bring out any characteristic difference between the good and bad spellers in this respect. It is quite possible that the time required for making loops is not a fair representative of the speed of the mechanical processes in writing. A person who can make loops fast, that is, may not necessarily be a person who can execute rapidly the more complicated movements of writing words. Thus our quotients may have contained differences due to purely mechanical writing processes.

The study shows that good spellers have greater verbal ability than bad spellers, as measured by the number of words they can construct out of a given set of letters.